

REMARKS

Claims 1 through 18 are pending in this Application. The specification has been amended to address clerical oversights, and claims 1 and 2 have been amended to address formalistic issues. Applicants submit that the present Amendment does not generate any new matter issue.

Claim Objections.

The Examiner objected to claims 1 and 9 identifying perceived informalities. This objection is traversed.

In response, claims 1 and 2 have been amended to address certain issues raised by the Examiner. However, Applicants do not agree that claims 1 and 9 should be amended at lines 3 and 6 as suggested by the Examiner. Specifically, the phrase “the first (or second) conductivity type” in claims 1 and 9 means “n or p conductivity type”. The phrase “the first (or second) non-single crystalline semiconductor layer” in claims 1 and 9 means “the first non-single crystalline semiconductor layer” or “second non-single crystalline semiconductor layer”. In other words, the use of the word “first” or “second” with respect to the conductivity type is different from the use of the words “first” and “second” designating layers. Accordingly, Applicants submit that the words “first” and “second” in claims 1 and 9 at lines 3 and 6 are appropriate and do not obfuscate the claimed subject matter.

Based upon the foregoing Applicants solicit withdrawal of the claim objections.

Claims 1 through 6, 8 through 16 and 18 were rejected under 35 U.S.C. § 102 for lack of novelty as evidenced by Yoshimi et al.

In the statement of the rejection the Examiner referred to Fig. 1 of Yoshimi et al. and to column 5, lines 44 through 56, asserting the disclosure of a photoelectric conversion device corresponding to that claimed, including first conductivity type non-single-crystalline layer 111, second non-single-crystalline semiconductor layer 113, and intrinsic third non-single-crystalline semiconductor layer 112 formed therebetween. The Examiner also asserted (without any apparent factual basis) that many of the crystal grains contained in the third non-single-crystalline semiconductor layer have major axes substantially perpendicular to the main surface of the substrate on an interfacial portion between the first and second semiconductor layers, and that many of the crystal grains contained in either the first or second semiconductor layer have major axes substantially parallel to the main surface of the substrate. This rejection is vigorously traversed as clearly factually inaccurate.

The factual determination of lack of novelty under 35 U.S.C. § 102 requires the **identical** disclosure in a single reference of **each** element of a claimed invention, such that the identically claimed invention is placed into the recognized possession of one having ordinary skill in the art.

Dayco Prods., Inc. v. Total Containment, Inc., 329 F.3d 1358, 66 USPQ2d 1801 (Fed. Cir. 2003); *Crown Operations International Ltd. v. Solutia Inc.*, 289 F.3d 1367, 62 USPQ2d 1917 (Fed. Cir. 2002). In imposing a rejection under 35 U.S.C. § 102, the Examiner is required to **specifically identify** wherein an applied reference is perceived to identically disclose each and every feature of a claimed invention, particularly where such is not apparent as in the present case. *In re Rijckaert*, 9 F.3d 1531, 28 USPQ2d 1955 (Fed. Cir. 1993); *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481 (Fed.

Cir. 1984). That burden has not been discharged. Indeed, there are significant differences between the claimed photoelectric conversion device and the device disclosed by Yoshimi et al. that scotch the factual determination that Yoshimi et al. disclose a photoelectric conversion device identically corresponding to that claimed.

Applicants would initially stress that it is **not** apparent and the Examiner did **not** specifically identify where in Yoshimi et al. disclose or even suggest that many of the crystal grains within layer 112 have major axes substantially perpendicular to the main surface, or that many of the crystal grains contained in either layer 113 or layer 111 have major axes substantially parallel to the main surface of the substrate. *In re Rijckaert, supra; Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co., supra.* In this respect, Applicants would note that the schematic illustration of the layers by Yoshimi et al. is just that – a schematic illustration with **no** description of how the major axes of crystal grains are aligned within the layer. Moreover, in column 5 of Yoshimi et al., lines 50 through 53, it is disclosed that the preferential orientation of crystal planes in layer 112 is parallel to the surface. The preferential orientation of crystallographic planes is **not**, repeat **not**, the same as the alignment of major axes of crystal gains.

Applicants would further stress it is **not** apparent and the Examiner again did **not** specifically point out wherein Yoshimi et al. disclose or even suggest a photoelectric conversion device corresponding to that defined in independent **claim 9**, wherein either the first or second semiconductor layers includes first and second layers containing crystal grains having major axes in directions substantially **different** from each other, wherein many crystal grains in the first layer have major axes substantially **parallel** to the main surface while many crystal grains contained in the second layer have major axes substantially **perpendicular** to the main surface of

the substrate. *In re Rijckaert, supra; Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co., supra.*

The Examiner's apparent reliance upon the schematic illustration in Fig. 1 is improper, particularly since the written description of the specification of Yoshimi et al. is conspicuously **mute** as to the direction of any major crystal axes of crystal grains within layers 111, 112 and 113. The Examiner's attention is specifically invited to MPEP Section 2125 and to *Hockerson-Halberstadt, Inc. v. Avia Group Int'l.*, 222 F.3d 951, 55 USPQ2d 1487 (Fed. Cir. 2000). In short the Examiner's reliance upon schematic illustrations is insufficient to establish lack of novelty under 35 U.S.C. § 102.

The above argued **structural differences** between the claimed photoelectric conversion device and the device disclosed by Yoshimi et al. undermine the factual determination that Yoshimi et al. disclose a photoelectric conversion device identically corresponding to that claimed. *Minnesota Mining & Manufacturing Co. v. Johnson & Johnson Orthopaedics Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992); *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 230 USPQ 81 (Fed. Cir. 1986). Applicants, therefore, submit that the imposed rejection of claims 1 through 6, 8 through 16 and 18 under 35 U.S.C. § 102 for lack of novelty as evidenced by Yoshimi et al. is not factually viable and, hence, solicit withdrawal thereof.

Claims 7 and 17 were rejected under 35 U.S.C. § 103 for obviousness predicated upon Yoshimi et al. or Muramatsu et al. in view of the acknowledged prior art.

This rejection is traversed. Specifically, it is not apparent and the Examiner did not point out wherein either Yoshimi et al. or Muramatsu et al. disclose or suggest a photoelectric conversion device corresponding to that defined in independent claim 1 or in independent claim

9, particularly satisfying the claim requirement for the alignment of major axes of crystal grains.

The acknowledged prior art does not cure these deficiencies.

Further, Applicants would note that Muramatsu et al. relate to a manufacturing method for forming a polycrystalline silicon by recrystallization of an amorphous silicon. Clearly, as one having ordinary skill in the art would have recognized, the disclosure of Muramatsu et al. is technically **remote** from the present invention.

Applicants, therefore, submit that the imposed rejection of claims 7 and 17 under 35 U.S.C. § 103 for obviousness predicated upon Yoshimi et al. or Muramaatsu et al. is not factually or legally viable and, hence, solicit withdrawal thereof.

Based upon the foregoing it should be apparent that the imposed objection and rejections have been overcome, and that all pending claims are in condition for immediate allowance. Favorable consideration is, therefore, solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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